

HEADWATERS

A core publication of the Lilly Center for Lakes & Streams | Autumn 2023



LILLY CENTER FOR
**LAKES
& STREAMS**

A case for data: research
database update
page 2

A lasting legacy: The
Founders Circle
pages 3-4

Ways to give this
holiday season
page 5

Five years of service:
Sarah Baier
page 5



MOVING THE NEEDLE IN EDUCATION THIS FALL

Lake Adventure Day is a day Kosciusko County 4th graders look forward to at the beginning of each year. So do Grace College education majors who hone their skills while teaching **water literacy** to over 600 students.

Students rotate with their class to three different **interactive stations**. A messy sand project helped students visualize erosion. A second station encouraged students to use pipets to simulate how water moves through a watershed from high to low elevations. During the third station, students had an opportunity to learn how to fish in Winona Lake.

This year, our education team will make over 10,000 student connections. Developing water literacy in young students is one component that ensures that Kosciusko County's lakes and streams are **clean, healthy, safe, and beautiful** for generations to come. •

Education programs exist alongside research and collaboration efforts to care for our lakes & streams. Learn more at lakes.grace.edu/education.

CONTENTS

- 2 A case for data, a database update
- 3 A lasting legacy: The Founders Circle
- 5 Ways to give this holiday season
- 5 Five years of service: Sarah Baier

Cover: Discovering the effects of erosion is just one fun part of Lake Adventure Day for Kosciusko County 4th graders!

STAFF

Dr. Nate Bosch
Director

Jeremy Price
Associate Director

Judy Fisher
Stewardship Coordinator

Sarah Baier
Asst. Director of Education

Matt Burlingame
Asst. Director of Research

Grace St. Clair
Lead Education Coordinator

Jed Harvey
Research Technician

Rusty Martinez
Asst. Director of Marketing

Dr. Joseph Frentzel
Cell & Molecular Biologist

Ariel Wagner
Education Coordinator

Hannah Godfrey
Marketing Assistant

CONTACT

Email
lakes@grace.edu

Phone
574-372-5281

Website
lakes.grace.edu



A CASE FOR DATA

Exploring the need for a research database

As a lake resident, understanding your lake and how to best care for it is important. Through strategic research, scientific analysis, and precise sampling, we gather essential, **high-quality data** on Kosciusko County waterways. Then we equip you to help protect these natural resources.

Everything hinges on one factor: trustworthy data. The process of collecting, managing, and analyzing data is called the **research process**.

Defining the problem

The first step in the research process is **defining** an issue or problem. Ten years ago, the Lilly Center set out to design a research project to learn how to predict and prevent harmful algae blooms (HABs) to keep our community safe. HABs are usually made up of blue-green algae and pose a health risk to pets and

humans when they exist at elevated levels and produce toxins. A better understanding is needed of what triggers HABs and the environment in which they develop.

Collecting the data

The next step in the research process requires collecting data- **individual points of information**. Researchers worldwide know little about the triggers that motivate blue-green algae to produce toxins. As a result, the Lilly Center gathers a wide variety of information about local lakes to uncover patterns and trends. When a research team visits a lake, they collect information about the weather, the clarity of the water, and the availability of dissolved oxygen. Water samples are processed in a lab to gather information about nutrients and toxins.

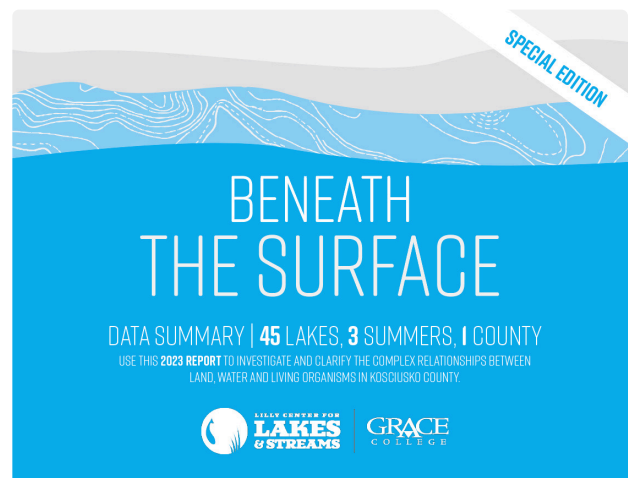
Storing and managing the data

Back in 2009, when the Lilly Center began, our team used Excel spreadsheets

to organize the data. As our research expanded, we outgrew spreadsheets, and as the amount of data increased, the chances for something to go wrong increased, too. We needed a new system, a **database**.

We partnered with Winona IT to create a custom database that uses an efficient coding language to store information. This project enables high levels of consistency and allows the research team to analyze the data in meaningful ways.

A research database is not the “holy grail” to solve the



Beneath the Surface, available this fall.

blue-green algae problem. It is a tool to effectively and thoroughly understand the state of our lakes and enhance our capabilities.

continued on page 5...



The Lilly Center founders with stained glass portholes that signify their induction to the Founders Circle. L-R: Suzie Light, Dr. Ron Manahan, Dr. Nate Bosch, Dr. Frank Levinson.

A LASTING LEGACY

Raising a hand in support of Kosciusko County's lakes & streams

In a move that marks long-term support for the Lilly Center, we are proud to induct our three founders into the **Founders Circle**, a legacy-giving society.

Dr. Frank and Kristen Levinson, Suzie and Steve Light, and Dr. Ron and Lisa Manahan join an exclusive group that chooses to include the Lilly Center in their estate planning with significant gifts. The first 20 individuals or families to include the Lilly Center in their estate will be forever known as the Founders Circle. To date, over 10

families have committed major gifts.

At a lunch this summer to mark the occasion, the trio reflected on another fateful lunch 16 years ago.

"I get this call from Frank who said, 'Let's go to lunch and talk about some ideas around water in Kosciusko County,'" recalls Light, former Kosciusko County Community Foundation CEO. "So, I got in a car with a stranger, had a lovely lunch and good conversation, and said, 'Yes, we can help you.' After convening folks to

talk about water, the idea of Grace College leading an initiative came to Dr. Manahan, who, in his quiet way, said, 'Suzie, Grace College wants to help.'"

This partnership created a **foundation of trust and cooperation** that would change how lake residents interacted with and understood their lakes. That call to collaborate launched what today is the Lilly Center. We partner with other environmental organizations, lake associations, community non-profits, and agricultural

producers to implement best practices and make Kosciusko County's lakes healthy for future generations

"The scientific data we collect informs our research rather than emotion or popular opinion," said director Nate Bosch. "Thanks to education programs, students and lake residents increase their water literacy and change their behavior to practices that care for their lake. There's no better way to do that than by collaborating with other organizations and lake residents."

By establishing the Founders Circle, the Lilly Center invites lake-loving families to **consider their legacy**.

"Part of what I enjoy is finding those veins where there is potential," said Levinson. "And one of the things I would expect to happen over time is for my family and others who live on the lake to become stronger, long-term supporters of the Lilly Center than we are."

To date, the Lilly Center has conducted research on a

variety of topics including boating impacts, zebra mussels, the economic impact of lakes, blue-green algae, and more. The education programs at the Lilly Center received the Governor's Award for Environmental Excellence in

Lilly Center's continuous development throughout its existence," he said. "It has many achievements, including developing meaningful relationships across a wide spectrum of people and being a trusted recipient of financial gifts."

I enjoy . . . finding those veins where there is potential.

Dr. Frank Levinson

2019. These programs will create over 10,000 student connections in the 2023-24 school year.

Looking back, Dr. Levinson's perspective on the Lilly Center's success is less about science and more about relationships. "This may sound simplistic, but it's not the data or the improving lakes and streams that I'm most proud of," he said. "It's the ability of people across a wide political, religious, and social spectrum to come together and work on this."

Dr. Manahan agrees. "I'm most proud of the

Thanks to Dr. Frank Levinson, Suzie Light, Dr. Ron Manahan, and countless others, the Lilly Center has been repeatedly humbled by gifts of time, finances, and wisdom. As a result, the Lilly Center has arrived at a place it could not have imagined in 2007. Legacy estate gifts like theirs will **spur lake research and education** to even greater significance. •

Previous members inducted to the Founders Circle include Keith & Debbie Busse, Doug & Karen Grant, Vance Lopp, George & Peggy Rapp, and Dick & Lisa Teets.



Ensure your lake legacy.

Join the Lilly Center Legacy Society by making a gift through several estate options with tax advantages. Talk to Dr. Nate Bosch about how you can join the Founders Circle and become part of an initial group of 20 members today:

574.372.5282 | boschns@grace.edu

INVEST TODAY

This holiday season, give back to your lakes & streams— with big tax benefits!

It **takes a team** to care for the incredible resources in our backyard. From reducing garden fertilizer to collecting yard waste to supporting lake research, you can help improve your quality of life, home value, and more!

As you consider the options available to you, our team is prepared to help you **identify the best option and navigate the details.**

WAYS TO GIVE:

- Appreciated Assets
- Real Estate
- Life Insurance, IRA, or 401(K) Plans
- Charitable Lead or Remainder Trusts
- Charitable Gift Annuities
- Cash, Check, or Credit Card

Scan this QR code to give online and to learn more about giving:

lakes.grace.edu/give



A Case for Data, continued...

The research team uses **quality control and quality assurance measures** each time they enter data into the database.

Analyzing data and creating a report

Finally, the research team analyzes the data and produces publications like our annual lakes report *Beneath the Surface* and other research papers. With the help of our newly created database, *Beneath the Surface* analyzes information from 45 lakes in Kosciusko County. This special edition **investigates and clarifies** the complex relationships and historical comparisons between land, water, and living organisms in Kosciusko County. •

Look for your copy of Beneath the Surface later this fall! A digital copy will be available at: lakes.grace.edu/bts

This database project would not have been possible without support from these individuals:

Patrick Appenzeller, Keith & Tammy Denlinger, Jeff & Carrie Herdrich, Max & Jan Kendall, James Leman, Dr. Frank & Kristen Levinson, Rick & Belinda Russell, Dr. Rick & April Sasso, John & Kristine Schlagenhauf, Amb. Randy & Deborah Tobias, Dr. Terry & Dr. Sandra Tucker, David & Peggy Wihebrink

Congratulations, SARAH BAIER!

Passionate, idea generator, and learner. These are just a few of the words that come to mind when we think of Sarah, assistant director of education at the Lilly Center. In 2023, Sarah celebrates five im-

pactful years **serving K-12 students and coaching college student interns.** Sarah is a life-long learner and enriches the lives of those around her. •

Thank you for your service, Sarah!



The education team helps make over 10,000 student connections each year!